

**Additional Practice****Lesson 5.8**

A company is drilling for oil. The table shows how the volume of earth removed from the hole increases as the hole gets deeper.

Depth of Hole (feet)	Volume of Earth (cubic feet)
100	1257
200	2514
300	3771
400	5028
500	6285

- What volume of earth does the oil company remove when the hole is 700 feet deep? 1200 feet deep? Explain.
- Write an equation describing the relationship between depth  $D$  and volume  $V$ .
- Use your equation from Exercise 2. Determine the depth of the hole when the oil company removes 5153.7 cubic feet of earth.

For Exercises 4 and 5, use Tables A, B, and C.

**Table A**

Input	Output	$\Delta$
-1		-1
0		-1
1		-1
2	-5	-1
3	-6	

**Table B**

Input	Output	$\Delta$
0	3	
1	4	
2	7	
3	12	
4	19	

**Table C**

Input	Output	$\Delta$
0		5
2	5	5
4		5
6		5
8		

- List the information that is missing from each table.
- Which tables can you generate using a linear function? Write each linear function.
- Multiple Choice** The table shows the monthly cost of a cell phone plan based on the number of minutes used. What is the monthly cost for 20 minutes of calls?  
A. \$30.20   B. \$33.00   C. \$33.15   D. \$50.00

Minutes Used	Monthly Cost
1	\$30.15
2	\$30.30
3	\$30.45

For Exercises 7–10, graph the data for each table. For each table that matches a linear function, write that function.

7.

Input	Output
0	5
1	7
2	13
3	23
4	41

8.

Input	Output
0	$\frac{1}{4}$
1	1
2	$1\frac{3}{4}$
3	$2\frac{1}{2}$
4	$3\frac{1}{4}$

9.

Input	Output
0	6
1	3
2	0
3	-3
4	-6

10.

Input	Output
0	24
1	8
2	$2\frac{2}{3}$
3	$\frac{8}{9}$
4	$\frac{8}{27}$